**Amendments to the Claims:**

1 (cancelled).

2 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said surface portion comprises a material selected from the group consisting of metals, metal oxides, semiconductors, polymers, silicon, silicon oxide, and composites thereof.

3 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said surface portion comprises a material selected from the group consisting of polymers, silicon, silicon oxide, and composites thereof.

4 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said linking layer is continuous.

5 (currently amended). The method ~~article~~ of claim ~~1~~ 28, wherein said linking layer is patterned.

6 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said linking layer is a self-assembled monolayer.

7 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said linking layer comprises an initiator-terminated alkanethiol.

8 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said surface-initiated polymerization is carried out by atom transfer radical polymerization.

9 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said surface-initiated polymerization is carried out by free radical polymerization.

10 (cancelled).

11 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said vinyl monomer is selected from the group consisting of styrenes, acrylonitriles, acetates, acrylates, methacrylates, acrylamides, methacrylamides, vinyl alcohols, vinyl acids, and combinations thereof.

12 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said protein resistant head group comprises a hydrophilic head group.

13 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said protein resistant head group comprises a kosmotrope.

14 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said protein resistant head group is selected from the group consisting of oligosaccharides, tri(propyl sulfoxide), phosphorylcholine, tri(sarcosine) (Sarc), N-acetylpiperazine, permethylated sorbitol, hexamethylphosphoramide, an intramolecular zwitterion, and mannitol.

15 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said protein resistant head group comprises poly(ethylene glycol).

16 (currently amended). The ~~article~~ method of claim ~~1~~28, wherein said brush molecule is from 5 to 50 nanometers in length.

17 (currently amended). The ~~article~~ method of claim ~~1~~28, said brush molecule formed on said surface portion at a density from 40 to 100 milligrams per meter$^2$.

18 (currently amended). The ~~article~~ method of claim ~~1~~28, further comprising a protein, peptide, oligonucleotide or peptide nucleic acid covalently coupled to said brush molecule, said protein, peptide, oligonucleotide or peptide nucleic acid consisting essentially of a single preselected molecule.

19 (currently amended). The ~~article~~ method of claim 18, wherein said preselected

molecule is a receptor.

20 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said article is a contact lens or intra-ocular lens.

21 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said article is an orthopedic implant.

22 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said article is a vascular graft or a stent.

23 (currently amended). The ~~article~~ method of claim ~~1~~ 28, wherein said article is a shunt or catheter.

24 (currently amended). The method ~~article~~ of claim ~~1~~ 28, wherein said article is a dialysis machine or blood oxygenator and said surface is a blood contact surface.

25 (currently amended). The method ~~article~~ of claim ~~1~~ 28, wherein said article is an implantable electrical lead, an implantable electrode, an implantable pacemaker, or an implantable cardioverter.

26 (currently amended). The method ~~article~~ of claim ~~1~~ 28, wherein said article is a label-free optical or mass detector and said surface is a sensing surface.

27 (currently amended). The method ~~article~~ of claim ~~1~~ 28, wherein said article is a biosensor or assay plate.

28 (currently amended). A method of using an article ~~of claim1~~ having a nonfouling surface thereon, said method comprising:

*(a)* providing an article ~~of claim 1~~ having a nonfouling surface thereon, csaid article omprising:

*(i)* a substrate having a surface portion;

*(ii)* a linking layer on said surface portion; and

*(iii)* a polymer layer formed on said linking layer by the process of surface-initiated polymerization of monomeric units thereon, with each of said monomeric units comprising a vinyl monomer core group having at least one protein-resistant head group coupled thereto, to thereby form a brush molecule on said surface portion;

said brush molecule comprising a stem formed from the polymerization of said monomer core groups, and a plurality of branches formed from said protein-resistant head group projecting from said stem; and then

*(b)* contacting said article to a biological fluid, and where proteins in said fluid do not bind to said surface portion.

29 (original). The method of claim 28, wherein said contacting step is carried out *in vivo* or *ex vivo*.

30 (original). The method of claim 28, wherein said biological fluid consists essentially of blood, blood plasma, peritoneal fluid, cerebrospinal fluid, tear, mucus, or lymph fluid.

31 (original). The method of claim 28, wherein said contacting step is carried out for a time period of at least one day.

32-50 (cancelled).

51 (new). A method of using an article having a nonfouling surface thereon, said method comprising:

*(a)* providing an article having a nonfouling surface thereon, said article comprising:

*(i)* a substrate having a surface portion;

*(ii)* a linking layer on said surface portion; and

*(iii)* a polymer layer formed on said linking layer by the process of surface-initiated polymerization of monomeric units thereon, with each of said monomeric units comprising a vinyl monomer core group having at least one protein-resistant head group coupled

thereto, to thereby form a brush molecule on said surface portion;

said brush molecule comprising a stem formed from the polymerization of said monomer core groups, and a plurality of branches formed from said protein-resistant head group projecting from said stem; and then

*(b)* contacting said article to a biological fluid, and where proteins in said fluid do not bind to said surface portion;

wherein said contacting step is carried out *in vivo* or *ex vivo*; wherein said biological fluid consists essentially of blood, blood plasma, peritoneal fluid, cerebrospinal fluid, tear, mucus, or lymph fluid; and wherein said contacting step is carried out for a time period of at least one day.

52 (new). The method of claim 51, wherein said article is a contact lens or intra-ocular lens.

53 (new). The method of claim 51, wherein said article is an orthopedic implant.

54 (new). The method of claim 51, wherein said article is a vascular graft or a stent.

55 (new). The method of claim 51, wherein said article is a shunt or catheter.

56 (new). The method of claim 51, wherein said article is a dialysis machine or blood oxygenator and said surface is a blood contact surface.

57 (new). The method of claim 51, wherein said article is an implantable electrical lead, an implantable electrode, an implantable pacemaker, or an implantable cardioverter.

58 (new). The method of claim 51, wherein said article is a label-free optical or mass detector and said surface is a sensing surface.

59 (new). The method of claim 51, wherein said article is a biosensor or assay plate.